UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

July 23, 2002

REPLY TO THE ATTENTION OF

SR-6J

Alan Faust, Environmental Health & Safety
Solutia, Inc.
W.G. Krummrich Plant
500 Monsanto Avenue
Sauget, IL 62206-1198

RE: Comments on Mitigation Plan for Sauget Area 1
Sauget and Cahokia, Illinois

Dear Mr. Faust:

A review of Solutia's May 21, 2002, submittal of the Mitigation Plan for the Sauget Area 1 Site has been conducted by the U.S. Environmental Protection Agency (U.S. EPA) as well as the U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service. As of the date of this letter, no comments have been received from either the Illinois Environmental Protection Agency or Illinois Department of Natural Resources. If comments are received from either agency in the near future, they will be forwarded to you as soon as possible. Comments from all reviewing agencies are attached. Please submit a response to comments on or before July 31, 2002.

If you have any questions regarding the attached comments, please do not hesitate to contact me at 312/886-4592.

Sincerely,

Mike Ribordy
Remedial Project Manager
Superfund Division

Attachments

cc: Thomas Martin, USEPA
Tim Gouger, USACE
Sandra Bron, Illinois EPA
Kevin de la Bruere, USFWS
Mike Henry, IDNR
Will Bereswill, Anheuser-Busch
Daniel Goodwin, Secor International

ATTACHMENTS

Comments on Sauget Area 1, Sauget and Cahokia, Illinois Dead Creek Sediment Removal Action Mitigation Plan dated May 21, 2002. Prepared by Laramide Environmental, LLC and Waterstone, Inc. June 12, 2002.

General Comments

1. There does not appear to be any integration of the information from the habitat survey (Section 2 and Appendix 1) with the creek channel mitigation plan (Section 3). For example, the habitat survey clearly shows an abundant and diverse array of forbs and shrubs currently provide much of the habitat, yet only grasses are proposed for remediation.

2. Neither Section 2.0 nor Appendix 1 provides any context or perspective with which to evaluate the results of the baseline habitat assessment. Please add some conclusions regarding the overall habitat value of Dead Creek and Borrow Pit Lake (BPL) in both a local and regional context.

3. For the BPL investigation, the focus on mercury toxicity to fish rather than on bioaccumulation is not appropriate. Sediment results and fish tissue results for mercury are above the threshold values considered to pose food chain risks.

Section 2.0, Baseline Habitat Assessment

1. *Page 2-1, Section 2.0, second paragraph, second and fourth sentences*: The words "portions" and "sections" in these two sentences need to be quantified to provide a perspective on the overall habitat value of Dead Creek.

2. *Page 2-1, Section 2.0, third paragraph*: Please add a new paragraph which identifies the limitations of a four day, late fall field survey and what was done to compensate for not having a field survey in the spring during the flowering, migration, and breeding season.

3. *Page 2-2, third paragraph, first sentence:* Please change "come" to "some."

4. *Page 2-2, last paragraph, second, third and fourth sentences*: Please quantify "for much of the season" in the second sentence and clarify the third and fourth sentences by quantifying the approximate proportion of Dead Creek that is in each category. Finally, please provide conclusions regarding the overall habitat value of Dead Creek, both regionally and locally.

5. *Page 2-3, first paragraph, last sentence*: Please change "rate" to "rare".

Section 3.0, Creek Channel Mitigation Plan

6. *General*: The possibility of lining portions of Dead Creek, especially Segment B, has been discussed in recent conference calls between the agencies and the PRPs. If sections of Dead Creek are lined, the creek channel mitigation plan will likely need to be modified to provide appropriate surface cover for the liner. The vegetation mix should also be re-assessed in this case to evaluate potential for root penetration of the liner system.

7. *Page 3-1, third paragraph*: It is clear from the baseline habitat survey that forbs and shrubs are an important part of the overall habitat structure of the riparian

community. What is not clear is the extent to which forbs and shrubs were removed during sediment removal, since the focus of the discussion in Section 1.0 is trees. Therefore, the appropriateness of simply planting grasses to "provide for the replacement of all habitat and wetlands ... lost in the implementation of the project" is not clear.

At a minimum, this paragraph needs to present something other than a goal of returning to pre-development prairie. Specifically, there needs to be a link between current and potential habitat value, using the species list from the baseline habitat survey and their habitat requirements. Currently, it appears that replacement of forbs, shrubs, and perhaps some trees should be considered.

Section 4.0, Borrow Pit Lake Investigation and Mitigation Plan

8. *General:* Rationale should be provided for not collecting, or attempting to collect, fish samples. Results from additional fish samples would serve to more conclusively resolve issues regarding potential analytes of concern and the impacts on fish populations and higher trophic levels.

9. *Page 4-1, first paragraph*: Three fish samples and three sediment samples collected during the ecological risk assessment field work do not provide sufficient statistical power to draw conclusions regarding the distribution of mercury throughout a lake one mile in length. In addition, sediment results and fish tissue results for mercury are above the values considered to pose ecological food chain risks. Non-quantitative adjectives such as "only" (i.e. "Only one of three forage fish samples from the Borrow Pit Lake had mercury concentrations above a threshold level...") should be deleted from the discussion.

10. *Page 4-1, second paragraph*: Sediment analytical data from Dead Creek Segments B-E do not provide any information regarding potential mercury "hot spots" in Creek Segment F or the BPL. Sediment results for mercury in both Dead Creek (pre-sediment removal) and Borrow Pit Lake (currently) are above the threshold values considered to pose ecological food chain risks. Please delete the last sentence of this paragraph.

11. *Page 4-2, Section 4.1, Borrow Pit Lake Investigation Plan, Number of Samples*: One sample collected previously in the area of the BPL generally upstream of the confluence with Dead Creek does not provide sufficient data to determine that "backwater deposition of site-related constituents is not occurring in the BPL upstream of its confluence with Dead Creek." Data summarized on page 4-2 does indicate some elevated concentrations of site-related constituents, as the text in the first paragraph of this section describes. Sediment samples should be collected from the area of the BPL upstream of the confluence with Dead Creek. Sample spacing in this area could be increased compared to the 200-foot spacing planned for the area downstream of the confluence with Dead Creek.

12. *Page 4-2, Section 4.1, Analytes*: The Ecological Risk Assessment for Sauget Area 1 prepared by Menzie-Cura & Associates (Menzie-Cura, June 30, 2001) indicates that a number of analytes in addition to mercury may be of concern in BPL sediments. On page 3 of the Menzie-Cura (2001) report, they report that the previous screening

ecological risk assessment performed in 1997 concluded that some metals, PCBs, PAHs, and dioxin concentrations in sediment were above ecological screening levels. Three samples collected from the BPL do not provide sufficient statistical power to disprove the conclusions from the previous screening ecological risk assessment.

In addition, analyses of the three sediment samples collected from the BPL to support the Menzie-Cura (2001) report did not have sufficiently low detection limits to compare to appropriate ecological screening levels for several analytes. According to Menzie-Cura (2001, page 37), detection limits for the following analytes exceeded sediment screening levels in all three samples:

- Total cyanide;
- 14 PAH compounds;
- bis(2-ethylhexyl)phthalate; and
- hexachlorobenzene

Detection limits for the following analytes exceeded screening criteria in some samples:

- silver;
- total PCBs; and
- 10 pesticide compounds

The analytes listed above should be included in the BPL sampling and evaluation program. Sample collection, sample handling, and analytical methods should be verified to insure that appropriate detection limits are achieved for all analytes. The problems with detection limits prevent eliminating these compounds from further consideration based on comparison to benchmark screening criteria. The three fish samples and three sediment samples collected to support the Menzie-Cura (2001) ecological risk assessment do not provide sufficient statistical power to eliminate these constituents from further evaluation.

16. *Page 4-3, Section 4.1, Field Procedures:* The purpose of the planned sampling is to evaluate ecological risk, particularly with respect to exposure to fish. Eighteen inches is too deep for one vertically integrated sample, since most sediment exposure will be from the top six inches. Samples at all locations should be collected from 0 to 6 inches depth. Methylation processes are known to occur in conditions similar to the BPL. Methyl mercury is much more soluble than inorganic or elemental mercury and therefore can contribute to aquatic exposure irrespective of the depth of the sediments. We recommend that additional samples be collected at depths of 6 to 12 inches from half of the sample locations to assess the distribution of all mercury that may result in exposure to fish populations.

17. *Page 4-4, Section 4.2, Borrow Pit Lake Remediation Plan:* Despite the title, this section does not provide a plan to remediate the BPL. In any case, a remediation plan for the BPL is premature pending the results of the proposed sediment sampling. The heading should be changed to reflect planned data validation and assessment methodology. More detail should be provided regarding proposed data evaluation, especially how "hot spots" will be quantitatively identified. What criteria will be used, how will the modeling be done, and how will the model input parameters be

determined? Please delete the a priori comments on whether there is any risk. Perhaps the methodology being proposed for the residual risk assessment of Dead Creek Segments B through E could be extended to this evaluation.

Kevin_delaBruere@fws.gov
06/26/2002 02:26 PM

To: Mike Ribordy/R5/USEPA/US@EPA
cc:
Subject: Mitigation Plan Comments

Mike,

I've had a biologist look at the Dead Creek Mitigation Plan and received the following comments. If it is too late, let me know and I will issue a separate letter next week when I get back in the office.

More diverse seed mixes should be used along the banks of Dead Creek to provide a diverse plant community. A "grass-only" community will not allow for the introduction of local, native plant species.

The Draft Plan states that Illinois Department of Transportation (IDOT) Class 4 seed mixes, 4A (Low Profile Native Grass) and 4B (Wetland Grass and Sedge Mixture), will be used for planting. IDOT Class 5 seed mixtures, 5 (Forb with Annuals Mixture) and 5A (Large Flower Native Forb Mixture), should be used in addition to the Class 4 seed mixes in the planting with exception of the following species that are not native to the Mississippi Bottoms:

Chrysanthemum maxium (Shasta Daisy)
Gaillardia pulchalle (Blanket Flower)
Ratibida columnitera (Long-Headed Coneflower)

In addition, the percentage by weight of Helianthus mollis (Downy Sunflower) should be reduced to 3 % or 5% from the Class 5A seed mixture because of the aggressiveness of this species.

Additionally, it was noted that the Baseline Habitat assessment completed by Woodlot and Associates does not provide an accurate or complete assessment of habitat conditions at the site as data collection activity occurred wholly in the late fall of 2000. This sort of assessment should take place over the course of a year at a minimum to determine the extent of migratory bird use during the spring and fall migrations, nesting use in the spring and summer months, herpetological use in the spring and summer, and generally the plant community composition will generally change throughout the course of the growing season.